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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,992	12/11/2003	Shyam Kumar Verma	208-6139CT	8307

20995 7590 02/15/2007
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EXAMINER

KHAN, AMINA S

ART UNIT	PAPER NUMBER
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1751

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/15/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/15/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
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Office Action Summary

Application No.

10/732,992

Applicant(s)

VERMA ET AL.

Examiner

Amina Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 43-63, 73, 74, 76 and 77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 43-63, 73, 74, 76 and 77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This office action is in response to applicant's arguments filed on November 16, 2006.
2. Claims 43-63, 73, 74, 76 and 77 are pending. Claims 1-42, 64-72, 75 and 78-92 have been cancelled.
3. All prior rejections are maintained.

Response to Arguments

4. Applicant's arguments filed regarding Verma et al. (WO 97/48942) have been fully considered but they are not persuasive.

The applicant argues:

"Thus, the above evidence shows that FMC Corporation owned U.S. Patent No. 6,004,475 and "its corresponding PCT publication WO 97/49842 on the day that the invention of U.S. Patent No. 6,758,988 and the present application was made. Accordingly, it is submitted that under the provisions of 35 U.S.C. § 103(c), WO 97/49842 (Verma et al.) is disqualified as prior art; see M.P.E.P. 706.02(I)(1) and 706.02(I)(2) and the rejections of record based on the Verma et al. PCT publication are improper."

The examiner respectfully disagrees. The 35 U.S.C 103(a) rejection made under Verma et al. (WO 97/49842) cannot be disqualified under 35 U.S.C. 103(c) because the publication date of Verma et al., December 31, 1997, is greater than 1 year before the provisional date of the instant application, September 2, 1999, and therefore qualifies as a 102(b) date.

"In addition, if the subject matter qualifies as prior art under any other subsection of 35 U.S.C. 102 (e.g., 35 U.S.C. 102(a) or (b)) it will not be disqualified as prior art under 35 U.S.C. 103(c)." see MPEP 706.02(I).

5. Applicant's arguments filed regarding Verma et al. (WO 97/48942) in view of Chandler et al. (US 5,577,388) have been fully considered but they are not persuasive.

The applicant argues:

"if one were to combine the teachings of Verma et al. and Chandler et al., thereby combining the compositions of the two respective references to form a third composition, the resulting third refrigeration solution composition would comprise about 40% to about 65%, by weight, of an alkali metal halide (Verma et al., page 10, line 16), between about 30% and about 80%, by weight, of an alkali metal hydroxide (Chandler et al., col. 2, lines 1-3), at least two parts per million, by weight, of an amine having between four and twenty carbon atoms (Chandler et al., col. 3, lines 42-45) and heteropolycomplex anion of a transitional metal as a corrosion inhibitor (Verma et al., page 3, line 36). Such a

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resulting third composition is not claimed in any of the claims recited in the present application."

The examiner respectfully disagrees. Chandler et al. and Verma et al. are in the analogous art field of absorption solution for refrigeration systems. Chandler et al. provides strong motivation for including the instantly claimed hydroxide concentrations in absorption fluids citing that sodium and potassium hydroxides at the claimed percentages provide refrigeration fluids with optimum energy storage potentials (column 2, lines 1-7). It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the absorption refrigeration solution art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

Chandler et al. is simply relied upon for the benefit of adding alkali metal hydroxides and not further ingredients. However, nothing in the instant claims prevents the inclusion of the other Chandler et al. components, therefore the applicant's argument is moot. Accordingly the rejection of the claims is maintained.

6. Applicant's arguments filed regarding Verma et al. (WO 97/48942) in view of Chandler et al. (US 5,577,388) and Kujak et al. (US 5,783,104) have been fully considered but they are not persuasive.

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The applicant argues:

"The Kujak et al. reference is relied on for incorporating transition metal halides such as cobalt chloride and germanium bromide as corrosion inhibitors. It is submitted that such an additional reference simply adds yet another corrosion inhibitor to the previously described composition resulting from the combination of Verma et al. and Chandler et al., to create yet another composition which is not claimed by Applicants."

Chandler et al., Verma et al. and Kujak et al. are in the analogous art field of absorption solution for refrigeration systems. Kujak et al. provides strong motivation for including the instantly claimed germanium bromide and cobalt chloride in absorption fluids citing that germanium compounds inhibit corrosion even when present in very low concentrations (column 3, lines 55-67) and cobalt chlorides provide utility as absorbents in refrigeration fluids (column 2, lines 59-65). It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the absorption refrigeration solution art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

Kujak et al. is simply relied upon for the benefit of adding germanium bromide and cobalt chloride and not further ingredients. However, nothing in the instant claims

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prevents the inclusion of the other Chandler et al. components, therefore the applicant's argument is moot. Accordingly the rejection of the claims is maintained.

7. Applicant's arguments filed regarding Verma et al. (WO 97/48942) in view of Chandler et al. (US 5,577,388) and Takahashi (JP 402296888) have been fully considered but they are not persuasive.

The applicant argues:

"Takahashi is relied on to teach the addition of cobalt chloride and antimony trioxide. The further inclusion of these materials in the previously described composition resulting from the combination of Chandler et al. and Verma et al. is not recited in the present claims."

The examiner respectfully disagrees. The Chandler et al. Verma et al. and Takahashi contribute alkali metal hydroxides, phosphomolybdates, cobalt halides and antimony trioxides, which meet the limitations of the instant claims. Chandler et al., Verma et al. and Takahashi are in the analogous art field of absorption solution for refrigeration systems. Takahashi provides strong motivation for including the instantly claimed cobalt halides and antimony trioxides citing that they provide absorption fluids with high corrosion inhibiting capability when used in refrigerating machines (abstract). It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent

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unexpected results. A person of ordinary skill in the absorption refrigeration solution art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results. Accordingly the rejection of the claims is maintained.

8. Applicant's arguments filed regarding Verma et al. (WO 97/48942) in view of Chandler et al. (US 5,577,388) and Yazaki Corp (JP 01174588) have been fully considered but they are not persuasive.

The applicant argues:

"Claims 57-60 and 62 are rejected over Verma et al. in view of Chandler et al. and further in view of Yazaki Corp. The rejection is respectfully traversed. Yazaki Corp. is relied on to add yet another material, diantimony trioxide. It is submitted that the further addition of diantimony trioxide to the previously described compositions resulting from the combination of Chandler et al. and Verma et al. would result in a third composition not recited in Applicants' claims herein."

The examiner respectfully disagrees. The Chandler et al. Verma et al. and Yazaki Corp contribute alkali metal hydroxides, phosphomolybdates, and diantimony trioxides, which meet the limitations of the instant claims. Chandler et al., Verma et al. and Yazaki Corp are in the analogous art field of absorption solution for refrigeration systems. Yazaki Corp provides strong motivation for including the instantly claimed diantimony trioxides citing that they forms a dense protective film on the surface of metals in refrigeration machines and reduces the liberation of free halogens in the fluids

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(abstract). It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the absorption refrigeration solution art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results. Accordingly the rejection of the claims is maintained.

9. Applicant's arguments filed regarding Verma et al. (WO 97/48942) in view of Chandler et al. (US 5,577,388) and Greenley et al. (US 3,200,604) have been fully considered but they are not persuasive.

The applicant argues:

"Greenley et al. is cited to teach the use of antimony oxides as corrosion inhibitors. However, the further addition of antimony oxides to a composition resulting from the combination of Verma et al. and Chandler et al. does not meet the compositions recited in Applicants' claims for the aforesaid reasons."

The examiner respectfully disagrees. The Chandler et al. Verma et al. and Greenley et al. contribute alkali metal hydroxides, phosphomolybdates, and antimony trioxides, which meet the limitations of the instant claims. Chandler et al., Verma et al. and Greenley et al. are in the analogous art field of absorption solution for refrigeration systems. Greenley et al. provides strong motivation for including the instantly claimed

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antimony trioxides in fluids containing lithium hydroxide citing that they markedly reduce the corrosion rate (column 5, lines 64-75). It is prima facie obvious to combine the two compounds, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the absorption refrigeration solution art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results. Accordingly the rejection of the claims is maintained.

10. Applicant's arguments filed regarding Verma et al. (WO 97/48942) in view of Greenley et al. (US 3,200,604) and Cheng et al. (US 5,871,667) have been fully considered but they are not persuasive.

The applicant argues:

"the Verma et al. absorption solutions are alkali metal halide compositions used in conventional amounts, specifically amounts of between 40 and about 65% by weight as described clearly in page 10 of the reference. Such alkali metal halide compositions that are pH adjusted with a lithium hydroxide are simply not fairly descriptive of Applicants' claimed hydroxide based refrigeration compositions. Moreover, the addition of the antimony oxides taught by Cheng et al. to modify such alkali metal halide compositions does not result in compositions recited in Applicants' claims."

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The examiner respectfully disagrees. The Greenley et al., Verma et al. and Cheng et al. contribute lithium hydroxides, phosphomolybdates, diantimony trioxides, and antimony tribromides, which meet the limitations of the instant claims. Cheng et al. teaches the equivalence of antimony oxides and antimony tribromides as effective in inhibiting corrosion of metals such as steel (column 5, lines 64-75). It is well recognized to substitute art recognized equivalents.

Regarding applicant's arguments of the concentration of lithium hydroxide in the Greenly reference, Greenley et al. clearly teach it would be to add lithium hydroxide to the solutions for the benefit of markedly reducing the rate of corrosion (column 2, lines 35-43) and further teaches antimony oxides in combination with lithium hydroxide provide a marked decrease in corrosion rate (column 5, lines 65-75). One of ordinary skill in the art would have been motivated to optimize the concentration of lithium hydroxide to that instantly claimed because it in combination with antimony oxides is effective in the marked reduction of corrosion in refrigeration systems. Optimization of a result effective variable only requires routine skill in the art. The rejection of the claims is maintained.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

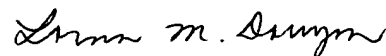
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Amina Khan, PhD
February 7, 2007



LORNA M. DOUYON
PRIMARY EXAMINER